

MEDICINE LAKE NATIONAL WILDLIFE REFUGE ¹⁹⁶¹

Medicine Lake, Montana

ANNUAL WATER PROGRAM

Water supplies on all refuge impoundments were excellent during 1960. Spring run-off, the heaviest since 1956, started March 15, 1960 and continued to the end of the month. Attempts to by-pass the high volume flows were futile and refuge impoundments were filled within a few days. Several dikes and roads were inundated resulting in moderate to severe damage. 1960

An estimated 40,000 acre-feet of water was impounded on the various refuge units during the period March 15 - 30. Estimated distribution was as follows:

<u>UNIT</u>	<u>ESTIMATED ACRE-FEET</u>	<u>MAIN SOURCES</u>
Medicine Lake proper	27,000	Big Muddy Creek
Homestead Unit	9,700	Big Muddy, Sheep & Lost Creeks
Unit No. 10	1,300	Cottonwood, Lake & Sand Creeks
Unit No. 11	600	Cottonwood, Lake & Sand Creeks
Unit No. 12	700	Lake Creek
Katy's Lake Unit	700	Lake Creek
	<u>40,000</u>	

Waterlevels held relatively stable throughout 1960. Waterfowl food plants and nesting cover responded well to favorable water conditions and received heavy use. Waterfowl production and migrational use exceeded that of the past several years and can be largely attributed to improved habitat conditions through optimum waterlevels. Little waterfowl disease was noted and was confined to algae poisoning on the pothole areas where waterlevels could not be controlled.

Recommended waterlevels for the various units for 1961 are as follows:

Impoundment	Present Level	Established	
		Operational Level	Recommended Level
No. 4	1942.90	1943.00	1943.00
No. 6	1936.64	1937.65	1937.65
No. 10	1943.69	1945.00	1945.00
No. 11	1951.00	1952.54	1952.54
No. 12	1952.58	1954.00	1954.00
Katy's Lake	1953.88	1953.00	1953.00

Attainment of recommended levels is reasonable assurance, under normal conditions, that adequate supplies of water will be available through the summer and fall to promote growth of desirable vegetation and to encourage waterfowl use. It should not be necessary, or desirable, to make releases from unit to unit to bolster waterlevels. In the event the recommended (operational) levels are not attained, releases should be made as early as possible (late March) and then only in such quantities as to make the downstream unit(s) functional. This recommendation is based on the high production and waterfowl use records on the upstream units of species now receiving special protection, the possibility of flooding downstream goose and duck nests with high volume releases during the April-June period, and the possibility of creating the type of water condition under which botulism can flourish. If deemed necessary or desirable, draw-down could be made during late September and October.